

What Is a “Standard Drink”?

BACKGROUND

The practice of standardizing drinks has long been implemented in commercial settings in which alcohol is available. Drink measures poured in licensed premises are used to standardize the volume of a given beverage sold to patrons and are controlled by licensing authorities. Commercial measures of most forms of beverage alcohol often vary from one country to another and are largely shaped by local drinking customs. In many European countries, for example, wine is served in deciliter increments and the British pint and half-pint are the staple servings of draught beer in pubs. Serving sizes of spirits are also often standardized in most industrialized countries.

From the public health perspective, the concept of a “standard drink” was introduced as a means of advising the public whether they are drinking within reasonable thresholds for avoiding potential harm and whether they are likely to experience the health benefits of alcohol. Since then, the standard drink has been a central feature in some alcohol education campaigns, predominantly in English-speaking countries¹, and has been used as a practical way of implementing government recommendations and guidelines on drinking. A “safe” or “low risk” number of standard drinks is based largely on existing medical evidence on long-term harm associated with different drinking levels and was designed as a tool to aid the public in avoiding potential harm.

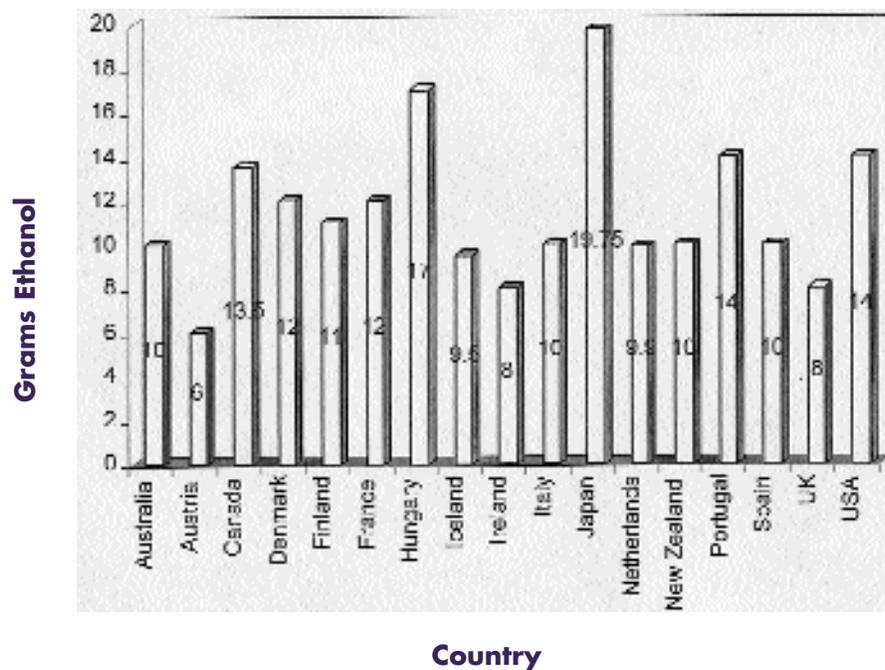
While the premise underlying the standard drink is straightforward, the manner in which standard drinks are applied can be confusing. International comparisons are made difficult by a wide range of definitions. This disparity is often not taken into consideration when information on drinking guidelines from different countries, often given in terms of standard drinks or units, is interpreted and compared. The lack of a uniformly accepted standard measure also creates some difficulty for the purposes of research.

INTERNATIONAL DEFINITIONS OF A STANDARD DRINK

The term “standard drink” was originally intended to apply to drinks of “standard” strengths. In practice, alcohol content varies among different beers, wines and distilled spirits. In addition, interpretations differ across countries of how much alcohol is contained in one standard drink. As Figure 1 illustrates, the range of official government definitions of standard drinks is wide². The measure of unit sizes ranges from the equivalent of 8 grams of ethanol in the United Kingdom to 19.75 grams of ethanol in a Japanese standard drink, or go³.

Standard serving sizes may also differ within a given country depending on the type of beverage being served, so that the amount of alcohol contained in a serving of beer may be different from the amount in a serving of wine or of distilled spirits⁴. In Austria, for instance, a *Trinkeinheit*, or drink unit, is the equivalent of 12 grams of ethanol for beer or wine, or 6 grams of ethanol for spirits. These definitions are largely dependent on the accepted and prevailing practices in different countries. According to a report from China, in early 1997 the Beijing Technology Supervision Bureau introduced the liter as a standard measure for beer⁵. For full strength beer, this volume equals approximately 40 grams of ethanol. In the beerhalls of Zimbabwe, a standard serving mug contains 2 liters of beer⁶, often shared by several people. In the United States, standard serving sizes of beer (12 oz), wine (5 oz) and spirits (1.5 oz) are all officially defined as containing the equivalent of 14 grams of ethanol⁷.

FIGURE 1



□ Based on official government definitions

The lack of uniformity in the definition of the standard drink is compounded by cultural preferences for the way in which alcohol content is measured – grams versus ounces of ethanol, American versus British fluid ounces, or measures of alcohol content as a percentage by weight or by volume. While official definitions of standard drinks may exist, the sizes of drinks poured in serving establishments often do not conform to them. A significant amount of beverage alcohol consumption occurs in homes and other private settings where drinks are rarely measured in standard units. These wide discrepancies and variations make any form of international comparison of drinks and consumption data difficult.

Some countries have attempted to introduce measures which would allow a better estimate of the number of standard drinks in a container of beverage alcohol. In Australia, standard drinks labeling of containers is required. In the United Kingdom, several beverage alcohol producers have recently made a voluntary decision to specify the number of UK units in a container of beverage alcohol on its label.

A DRINK IS A DRINK - OR IS IT?

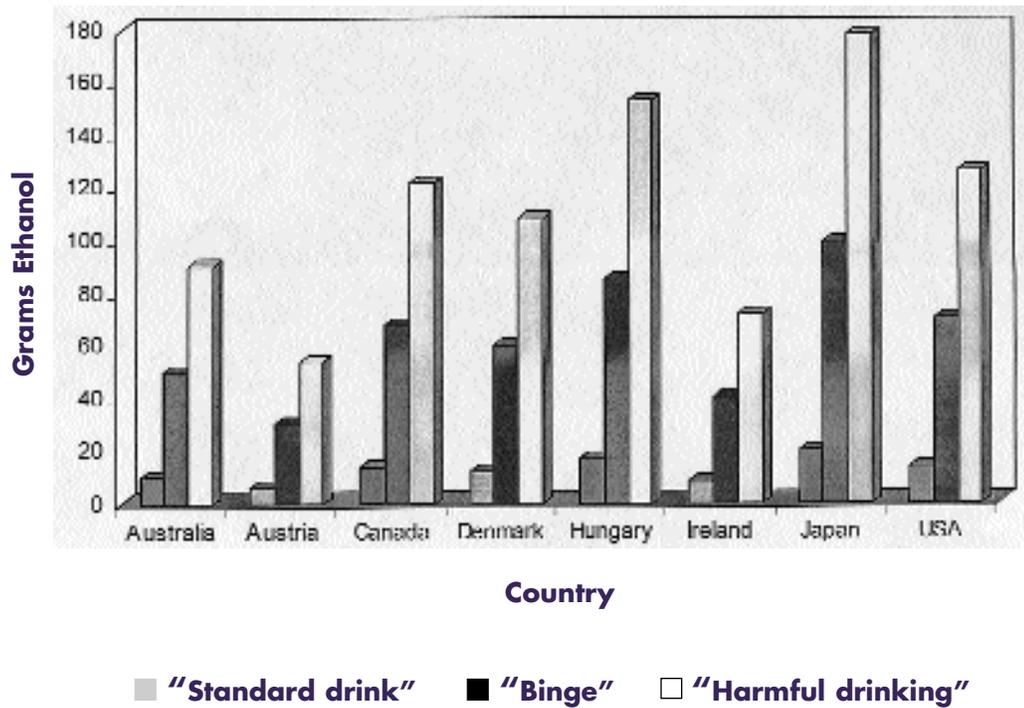
Standard drinks are useful for the implementation of drinking guidelines and for the dissemination of messages to the general population, but they are also used as a research tool for quantifying drinking levels and for describing the drinking patterns of individuals. Given the need for comparisons and applicability of data across countries, researchers report the lack of a uniform standard drink as particularly problematic within the research setting.

Units used by researchers often correspond to the standards accepted in their respective countries. However, not all researchers adhere to government issued standards when analyzing their data, but rather derive their own definitions from different sources. This lack of uniformity results in further confusion. A study undertaken by Turner illustrates this problem⁸. This comparison of definitions of standard drinks used in 125 international epidemiological studies showed that the definitions of a “drink” ranged from 8 grams of ethanol in the United Kingdom to 28 grams of ethanol in some Japanese studies.

When the standard drink approach is applied to the assessment of harm, the problem of definitions is amplified still further. In the epidemiological literature, drinking behaviors and drinking levels at which problems may occur are often defined in terms of particular numbers of drinks. For instance, by some North American definitions, a “binge” is defined as 5 or more drinks in a row for males⁹. Similarly, the benchmark for “harmful” drinking is sometimes set at 9 or more drinks in a row¹⁰.

The problem becomes clear when one compares what these definitions of a “binge” or of “harmful” drinking mean when different interpretations of a “drink” are applied, as illustrated in Figure 2¹¹. Using the 5-drink definition, a “binge” would amount to the equivalent of 40 grams of absolute ethanol in Ireland; in Hungary, on the other hand, it would equal 85 grams of ethanol, or more than twice that amount. Similarly, the 9 or more drinks definition for harmful drinking would mean that a Japanese drinker would have to consume the equivalent of 178 grams of absolute ethanol to qualify. An Austrian, on the other hand, could reach this point after 54 grams.

FIGURE 2



N.B. The definition used for a "binge" is five or more drinks at a sitting, and nine or more drinks for "harmful drinking".

Much of the data used for the assessment of harm are collected through surveys. Respondents are asked to report on their levels of drinking in terms of the number of drinks they have consumed. These self-reported values are then standardized by researchers into drink or ethanol equivalents. Whether these standardized values can accurately be used for research purposes is a complicated issue. Data derived from self-report questionnaires rely heavily on the ability of respondents to remember the number of drinks they have consumed within a given period of time which can cover a day, a week, months, or even a year.

The reliability of this method is further compromised by the lack of uniform definitions used by either governments or researchers. There is also the additional problem that survey respondents are required to recall the amount of alcohol they have consumed and report it as a given number of drinks. The size of each drink must be estimated, taking into account both the alcohol content of the drink and the size of the container. Both of these variables are difficult to gauge. As a study by Stockwell and Stirling has shown, most people are unable to estimate the size or strength of a drink with accuracy¹². The degree of accuracy decreases even further when the alcohol content of the beverage is either lower or higher than average. As another study has suggested, the deviation appears to be highest for distilled spirits and lowest for wine¹³.

In some countries, glasses in which wine, beer or spirits are served in many establishments are marked at a particular level so that the amount of alcohol consumed can be gauged. In other countries, such as the United States, standardized serving sizes are not required, meaning that the amount of alcohol in a particular drink can vary and is often larger than the government definition of a standard drink. Much drinking also occurs in off-premise settings in which drinks are generally not served in standard sizes or containers and partially filled glasses are often replenished, making an estimate of the number of drinks consumed difficult. In many developing countries, where drinking is a communal activity and drinks are often consumed from a common container, any attempt to quantify numbers of drinks may be a hopeless one altogether.

CONCLUSIONS

As this report has attempted to illustrate, the way in which the concept of a standard drink is currently implemented within an international setting is less than optimal. For the purposes of research and for cross-cultural comparisons, the usefulness of the “standard drink” hinges upon international consensus on the way in which it is defined. The challenge is to establish acceptable criteria for standardizing units of measurement and to strive towards greater harmonization in the way in which the concept of a standard drink is used. It has been suggested that a unit of measurement expressed in terms of grams of ethanol should be adopted to standardize “standard drinks”.

At the same time, harmonization of drink sizes is not necessarily a practical option when it comes to educating the public. Counting drinks for the purposes of epidemiology is not a common practice among most drinkers, and drink sizes used within countries are often reflections of the culture. The notion of “standard drinks” may not be an easy one to reconcile with many accepted drinking practices. From the point of view of educating the public about sensible drinking, guidelines that are in keeping with local drinking practices and drinking cultures seem a more reasonable approach.

References

1. Stockwell, T. and Single, E. 1997. Standard unit labeling of alcohol containers. In *Alcohol: Minimising the Harm*. M. Plant, E. Single and T. Stockwell, eds. London: Free Association Books, Ltd., pp. 85-104.
2. Data provided by Centre for Information on Beverage Alcohol. See also *AIM*. 1996. 5(2):11; *ICAP Reports 1* (Supplement). 1996.
3. Data provided by CBA.
4. The Austrian Bundesministerium für Gesundheit und Konsumentenschutz defines standard drinks, or *Trinkeinheiten* in a beverage specific way. The measures used are 125ml (approximately 12g ethanol) of wine, 300ml (approximately 12g of ethanol) of beer, and 20ml (approximately 6g of ethanol) of spirits.
5. *South China Morning Post*. 19 September 1996.
6. Jernigan, D.H. 1997. *Thirsting for Markets: The Global Impact of Corporate Alcohol*. San Rafael, CA: The Marin Institute.
7. United States Department of Agriculture/United States Department of Health and Human Services. (USDA/USD-HHS). 1995. *Nutrition and Your Health: Dietary Guidelines for Americans*. 4th edition. Washington, DC: USGPO.
8. Turner, C. 1990. How much alcohol is in a “standard drink”? An analysis of 125 studies. *British Journal of Addiction*, 85: 1171-1175.
9. Wechsler, H., Davenport, A., Dowdall, G., Moeykens, B. and Castillo, S. 1994. Health and behavioral consequences of binge drinking in college: A national survey of students at 140 campuses. *JAMA*, 272: 1672-1677; International Center for Alcohol Policies. 1997. *ICAP Reports 2: The Limits of Binge Drinking*.
10. Williams, G. D., Deitz, D. K. and Campbell, K. E. 1997. Frequency of consuming 5+ vs. 9+ drinks a day as predictors of alcohol-related morbidity. Paper presented at International Workshop on Consumption Measures and Models for Use in Policy Development and Evaluation. 12-14 May, Bethesda, Maryland.
11. For the purposes of this comparison, a “binge” is defined as five or more drinks, and “harmful” drinking is defined as nine or more drinks.
12. Stockwell, T. and Stirling, L. 1989. Estimating alcohol contents of drinks: common errors in applying the unit system. *British Medical Journal*, 298: 271-272.
13. Lemmens, P.H. 1994. The alcohol content of self-report and ‘standard’ drinks. *Addiction*, 89:593-601.

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